



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9550; Directorate Identifier 2016-CE-026-AD; Amendment 39-18894; AD 2017-10-20]

RIN 2120-AA64

Airworthiness Directives; Piper Aircraft, Inc. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Piper Aircraft, Inc. Models PA-31, PA-31-300, PA-31-325, and PA-31-350 airplanes. This AD was prompted by fatigue cracking in the fuselage station (FS) 332.00 bulkhead common to the horizontal stabilizer front spar attachment. This AD requires repetitive inspections to detect cracks in the bulkhead and any necessary repairs. This AD also provides an optional modification if no cracks are found that will greatly reduce the likelihood of the specified cracks. We are issuing this AD to correct the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Piper Aircraft, Inc., Customer Service, 2926 Piper Drive, Vero Beach, Florida 32960; telephone: (877) 879-0275; fax: none; email: customer.service@piper.com; Internet:

www.piper.com. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9550.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9550; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Gregory “Keith” Noles, Aerospace Engineer, FAA, Atlanta Aircraft Certification Office, 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5551; fax: (404) 474-5606; email: gregory.noles@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Piper Aircraft, Inc. Models PA-31, PA-31-300, PA-31-325, and PA-31-350 airplanes. The NPRM published in the Federal Register on January 3, 2017 (82 FR 48). The NPRM was prompted by reports of fatigue cracking in the FS 332.00 bulkhead common to the horizontal stabilizer front spar attachment on Piper Aircraft, Inc. PA-31 airplanes. Cracks in the bulkhead could compromise the

structural component's capability to carry flight loads, increasing the potential to overload and fail adjacent structure. The NPRM proposed to provide an optional modification if no cracks are found that will greatly reduce the likelihood of the specified cracks. We are issuing this AD to detect and repair cracks in the bulkhead that could lead to structural failure and result in loss of control.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request change to labor estimates

Joe M. Miller, Chief Inspector for Warbelow's Air Ventures, Inc. in Fairbanks, Alaska, stated they have complied with the proposed requirement on 3 airplanes and find that it takes 2 mechanics about 6 hours each (12 man-hours) to accomplish just the inspection phase. The commenter states that to better access the affected areas it is easier to remove both horizontal stabilizers. In total, it takes a crew of 2 about 4 days (64 man-hours) to accomplish the complete process from inspection to return to service.

We partially agree. We agree with revising the labor estimates for both the inspection and modification because of the additional operator data. Also, we will ensure the access time is included in both the inspection and modification estimates. Because the original time estimate was provided by another experienced operator, we will update the estimate to reflect an average of the two reported times. We disagree with using a combined estimate of 64 hours because the inspection and modification are estimated separately. We will make the following changes to the AD based on this comment:

- Update the inspection labor estimate from 1 hour to 12 hours; and
- Update the modification labor estimate from 26 to 45 hours.

Question on Airplanes that have previously complied

Joe M. Miller, Chief Inspector, Warbelow's Air Ventures, Inc., Fairbanks, Alaska, asked that we provide reference to those airplanes that have previously complied with Service Bulletin 1289A and installed kit 88578-001 Rev B. The commenter stated the NPRM only addresses the initial inspection and modification of FS 332 and does not address airplanes that have previously complied with Piper MSB 1289A by inspection and subsequent installation of the Piper Kit 88578-001 Rev B.

We do not agree because paragraph (f) of the AD addresses this situation with the phrase "unless already done."

We have not changed the AD based on this comment.

Request to Extend the Initial Compliance Time

Roger Braun asked that we extend the initial compliance time because his impression is that the cracks were found solely on one very high-time (20,000 hour plus) airplane, and he perceives 3,000 hours time-in-service (TIS) as too early to start the inspection intervals based on the finding.

We do not agree because the airplane design is intended to provide a service life that is crack-free. When cracks are found in service, a management program is put in place (reference Advisory Circular 91-82). It is true that the crack was found on an airplane with over 20,000 hours. The compliance time for the management program is based on the known failure time but must include safety and statistical reduction factors (reference Advisory Circular 23-13). Starting inspections at 3,000 hours TIS ensures any cracks that form will be found early enough to prevent an unsafe condition. While it may appear excessive, the compliance time is set to meet the design intent of a crack-free operation.

We have not changed the AD based on this comment.

Request for a Visual Inspection

Roger Braun asked that we allow for a visual inspection instead of a penetrant inspection because the parts involve a simple visual inspection. The commenter suggested that 10x glass would suffice instead of stripping paint and doing a dye-penetrant inspection. Then, a penetrant could be used if any cracks are suspected.

We do not agree because the cleaning and penetrant method has higher detection reliability than a purely visual method. The reliability of the inspection method is tied to the compliance time for the repetitive inspection and deferral of the permanent modification. Once the AD is published, the commenter may request an alternative method of compliance (AMOC) for the visual inspection method. The request, including all substantiating data, may be submitted following 14 CFR 39.19 as specified in paragraph (i)(1) of this AD.

We have not changed the AD based on this comment.

Clarification on Installation of the Kit

Tim Glubaskas, Director of Maintenance, Warbelow's Air Ventures, asked for a clarification on whether installation of the kit terminates the repetitive inspections.

That kit installation is terminating action for the repetitive inspection. This is addressed in paragraph (g)(3)(i) of this AD when the kit is used as a repair for cracks and in paragraph (g)(4) of this AD when the kit is used as a modification with no cracks.

We have not changed the AD based on this comment.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information under 1 CFR part 51

We reviewed Piper Aircraft, Inc. Service Bulletin No. 1289A, dated October 26, 2016. The service information describes procedures for the repetitive inspections, necessary repairs, and the optional modification of the bulkhead. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 955 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspect for cracks in the bulkhead	12 work-hours X \$85 per hour = \$1,020	Not Applicable	\$1,020	\$974,100

We estimate the following costs to do any necessary repairs/replacements that would be required based on the results of the inspection. We have no way of determining the number of airplanes that might need these repairs/replacements:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Repair/Modification	45 work-hours X \$85 per hour = \$3,825	\$296	\$4,121

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2017-10-20 **Piper Aircraft, Inc.:** Amendment 39-18894; Docket No. FAA-2016-9550; Directorate Identifier 2016-CE-026-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Piper Aircraft, Inc. Navajo Models PA-31, PA-31-300, and PA-31-325, serial numbers 31-2 through 31-900, and 31-7300901 through 31-8312019; and Chieftain/T-1020 Models PA-31-350, serial numbers 31-5001 through 31-5004, and 31-7305005 through 31-8553002, certificated in any category.

Note 1 to paragraph (c) of this AD: The Model PA-31 may also be identified as a PA-31-310 even though the PA-31-310 is not a model recognized by the Federal Aviation Administration (FAA) on the type certificate data sheet.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 5312: Fuselage - Main Bulkhead.

(e) Unsafe Condition

This AD was prompted by fatigue cracking in the fuselage station (FS) 332.00 bulkhead common to the horizontal stabilizer front spar attachment. This AD requires repetitive inspections to detect cracks in the bulkhead and any necessary repairs. This AD also provides an optional modification if no cracks are found that will greatly reduce the likelihood of the specified cracks. Cracks in the bulkhead could compromise the structural components capability to carry flight loads, increasing the potential to overload and fail adjacent structure and lead to loss of control.

(f) Compliance

Comply with paragraphs (g)(1) through (3) of this AD within the compliance times specified, unless already done.

(g) Actions

(1) For airplanes with 3,000 hours time-in-service (TIS) or less as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD): Initially within 500 hours TIS after reaching 3,000 hours TIS and repetitively thereafter every 200 hours TIS, inspect the fuselage station (FS) 332.00 bulkhead assembly for cracks following the instructions in Part I of Piper Aircraft, Inc. Service Bulletin (SB) No. 1289A, dated October 26, 2016.

(2) For airplanes with over 3,000 hours TIS as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD): Initially within the next 500 hours TIS after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD) and repetitively thereafter every 200 hours TIS, inspect the FS 332.00 bulkhead assembly for cracks, following the instructions in Part I of Piper Aircraft, Inc. SB No. 1289A, dated October 26, 2016.

(3) If cracks are found during any of the inspections required in paragraphs (g)(1) or (2) of this AD, before further flight, repair the cracks following the modification instructions in Part II of Piper Aircraft, Inc. SB No. 1289A, dated October 26, 2016, and one of the following as applicable:

(i) If the crack does not extend beyond the inspection / template area of figure 2 of Piper Aircraft, Inc. SB No. 1289A, dated October 26, 2016, and meets the minimum acceptable distance in figure 3 and table 2 of Part II of Piper Aircraft, Inc. SB No. 1289A, dated October 26, 2016, then the installation of Piper Kit 88578-001 Revision B, dated June 23, 2016, is acceptable as a repair and is considered terminating action for the repetitive inspection requirement in paragraphs (g)(1) and (2) of this AD.

(ii) If the crack extends beyond the inspection / template area of figure 2 of Piper Aircraft, Inc. SB No. 1289A, dated October 26, 2016, or does not meet the minimum acceptable distance in figure 3 and table 2 of Part II of Piper Aircraft, Inc. SB No. 1289A, dated October 26, 2016, then the installation of Piper Kit 88578-001 Revision B, dated June 23, 2016, is not an acceptable repair. You must obtain an alternative method of compliance (AMOC) for any repair or modification in this area. You may contact Piper Aircraft, Inc. for repair instruction development specific to this condition. For contact information refer to paragraph (j) of this AD.

(4) If no cracks are found, you may install Piper Kit 88578-001 Revision B, dated June 23, 2016, on an uncracked bulkhead following the Modification instructions in Part II of Piper Aircraft, Inc. SB No. 1289A, dated October 26, 2016. Installation of Piper Kit 88578-001 Revision B, dated June 23, 2016, on an uncracked bulkhead is considered terminating action for the repetitive inspection requirement in paragraphs (g)(1) and (2) of this AD.

(h) Special Flight Permit

A special flight permit is allowed for this AD per 14 CFR 39.23 with limitations. Permits are only allowed for the inspections required by this AD and are not allowed if cracks are discovered during any inspection following Part I of Piper Aircraft, Inc. SB No. 1289A, dated October 26, 2016. Any cracks found during any inspection must be repaired before further flight.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Atlanta Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (k) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Gregory “Keith” Noles, Aerospace Engineer, FAA, Atlanta Aircraft Certification Office, 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5551; fax: (404) 474-5606; email: gregory.noles@faa.gov.

(2) For service information identified in this AD, contact Piper Aircraft, Inc., Customer Service, 2926 Piper Drive, Vero Beach, Florida 32960; telephone: (877) 879-0275; fax: none; email: customer.service@piper.com; Internet: www.piper.com. You may review the referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(k) Related Information

For more information about this AD, contact Gregory “Keith” Noles, Aerospace Engineer, FAA, Atlanta Aircraft Certification Office, 1701 Columbia Avenue, College Park, Georgia 30337; phone: (404) 474-5551; fax: (404) 474-5606; email: gregory.noles@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Piper Aircraft, Inc. Service Bulletin No. 1289A, dated October 26, 2016.

(ii) Reserved.

(3) For Piper Aircraft, Inc. service information identified in this AD, contact Piper Aircraft, Inc., Customer Service, 2926 Piper Drive, Vero Beach, Florida 32960; telephone: (877) 879-0275; fax: none; email: customer.service@piper.com; Internet: www.piper.com.

(4) You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call 816-329-4148.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on May 10, 2017.

Melvin Johnson,
Acting Manager, Small Airplane Directorate,
Aircraft Certification Service.

[FR Doc. 2017-10407 Filed: 5/24/2017 8:45 am; Publication Date: 5/25/2017]